works connected to the theatre, language arts, dance, physical education and social studies curriculums.

School arts programs require a variety of traditional equipment, ranging from kilns for firing clay work in visual arts classrooms to pianos in music classrooms. Instrumental music programs should offer students an opportunity to use school-owned instruments, either without charge or for a nominal fee. Schools in all communities should own the more expensive instruments and most percussion instruments and, in less affluent communities, schools should be prepared to provide all instruments for their students. Appropriate guidelines on budgeting for the repair and replacement of equipment can be found in the national *Opportunity-To-Learn Standards For Arts Education*.

Arts students and teachers also should have access to video cameras, stereo VCRs, a large viewing screen, and multimedia equipment combining digitized sound and music with graphics and text. Schools should provide on-line access to arts resources, which are an increasingly important part of preparing and delivering arts instruction. Available Internet resources include, in addition to information, art work, music files and other resources. Students can even share art work they have created online, such as music compositions, and to receive constructive feedback from peers and professionals about that work.

## **Arts Technology References**

NOTE: While the following resources were current at the time of publication, technology changes rapidly and educators are encouraged to seek the most current sources available.

#### Music

- Mash, David S. *Computers and the Music Educator*. Melville, NY: Soundtree Publications, 1996.
- Muro, Donald. The Art of Sequencing: A Step-by-Step Approach. Van Nuys, CA: Alfred, 1995.
- Rudolph, Thomas. Teaching Music with Technology. Chicago, IL: G.I.A, 1996.
- Rudolph, Thomas; Richmond, Floyd; Mash, David; and Williams, David. *Technology Strategies for Music Education*. Wyncote, PA: Technology Institute for Music Educators, 1997. (www.ti-me.org)
- Williams, David B. and Webster, Peter R. *Experiencing Music Technology*. New York: Schirmer Books, 1996.

### Visual Arts

(The items followed by an "ED" number are available in microfiche and/or paper copies from the ERIC Document Reproduction Service.)

- Chia, Jane and Duthie, Birnie. "Primary Children and Computer-Based Art Work: Their Learning Strategies and Context." *Art Education* 46 (November 1993): 23-26. EJ 478 538.
- Dana, Ann S. "Introduction of Technology into the Art Curriculum." Visual Literacy in the Digital Age: Selected Readings From The Annual Conference Of The International Visual Literacy Association (Rochester, NY, October 13-17, 1993), 1993. ED 370 594.
- Dilger, Sandra C. and Roland, D. Craig. Preparing Students For The Twenty-First Century: A Rationale For Integrating New Technology Into School Arts Programs. Position Paper, 1993. ED 393 729.
- Gregory, Diane C. "Art Education Reform and Inactive Integrated Media." *Art Education* 48 (May 1995): 6-16. EJ 510 833.
- Gregory, Diane C. (ed.) New Technologies and Art Education: Implications for Theory, Research and Practice. Reston, VA: NAEA (1997). ISBN: 0-937652-74-1.
- Hicks, John M. "Technology and Aesthetic Education: A Crucial Synthesis." *Art Education* 46 (November 1993): 42-47. EJ 478 540.
- Kuntz, Margy and Kuntz, Ann. *Computer Crafts For Kids*. Emeryville, CA: Ziff-Davis Press, 1994. ED 389 659.
- Lebo, Marybeth. *An Examination Of Technology In The Art Classroom: An Annotated Bibliography*. South Bend, IN: Indiana University, 1992. ED 351 264.
- Madeja, Stanley S. "The Age of the Electronic Image: The Effect on Art Education." *Art Education* 46 (November 1993): 8-14. EJ 478 537.
- Matthews, John and Jessel, John. "Very Young Children Use Electronic Paint: A Study of the Beginnings of Drawing with Traditional Media and Computer Paintbox." Visual Arts Research 19 (Spring 1993): 47-62. EJ 482 430.
- Rogers, Patricia L. "Towards a Language of Computer Art: When Paint Isn't Paint." Art Education 48 (September 1995): 17-22. EJ 515 400.

## **Instructional Connections**

The arts provide a powerful means of integrating and energizing the entire school curriculum. Students should learn to relate the arts to other disciplines and to life experiences. Learning experiences in all subject areas should be planned so that students can make connections between what they learn in arts classes and what they learn in other content areas.

Effective schools tap the expertise that arts teachers bring to the school community. Most classroom teachers studied language arts, mathematics, science and social studies from kindergarten through high school, and usually on into college. Unfortunately, most have not studied the arts since their required study ended somewhere between fifth and eighth grade, and an increasing number have never had an opportunity to study the arts at all. Even those who have pursued an art form in depth, such as by playing in the band through high school, typically lack the breadth of back-

ground to place diverse art works into their historical or cultural context. To incorporate the important contributions of the arts it is, therefore, essential to include arts specialists in curriculum planning teams.

Arts learning takes three forms in the school curriculum:

- learning in the arts, i.e., developing students' abilities to create and perform the arts and to think artistically;
- learning about the arts, which includes reflecting about art work and connecting arts learning with the learning of other subjects;
   and
- 3. learning *through* the arts, i.e., using the arts to increase students' learning of other subjects.

The following is a model that clarifies appropriate, differing roles of specialist teachers and other teachers in delivering arts instruction:

Type of Learning (with illustrative examples)	Role of Specialist Teachers	Role of Other Teachers
<u>In</u> art, dance, music, theatre		
(e.g., creating and refining a sculpture; performing or composing music or dance; improvising a dramatic scene)	Plan instruction  Deliver instruction	Assist with curriculum planning
About art, dance, music, theatre		
(e.g., learning art history; writing to describe and evaluate music or dance performances; reading and responding to critical reviews of theatrical works)	Collaborate with other teachers to plan curriculum Share delivery of instruction	Collaborate with specialist teachers to plan curriculum Share delivery of instruction
Through art, dance, music, theatre		
(e.g., drawing to demonstrate understanding of a story read in class; singing songs from the late 1700s that illustrate	Assist with curriculum planning	Plan curriculum
differing attitudes toward British rule; developing a script or dance to simulate the debate between Galileo and those who labeled his sun-centered model of the solar system heretical)		Deliver Instruction

The following are important guiding principles and cautions to keep in mind when developing integrated curriculum.

- Integrated curriculum is an extension of not a substitute for – rigorous, sequential and comprehensive curriculum in each curriculum area
- 2. Some schools attempt to compensate for inadequate arts instructional time by "integrating" or "infusing" the arts into other content areas. Successful as these attempts often are in energizing other areas of the curriculum, they cannot substitute for arts instruction, because non-arts teachers generally lack the skills in the arts necessary to teach students artistic ways of thinking. Integration complements, but cannot substitute for, sequential arts learning.
- Successful integrated curriculum is almost always the result of cooperative planning and frequently the result of cooperative or team teaching.
- 4. "Interdisciplinary" suggests the connection of two or more disciplines, not the pooling of ignorance. Experts from both disciplines, therefore, must participate in the teams that plan interdisciplinary curriculum. Unfortunately, arts teachers often have been excluded from this process. The absence of their expertise on teams inevitably marginalizes and trivializes the role of the arts in both interdisciplinary units and the general curriculum.
- 5. Arts teachers must be members of the teams that design curriculums and schedules. Arts teachers should work with other teachers to prepare content modules that reinforce arts learning and reinforce units in other subjects. The development of such modules requires substantial planning time, at least some of it with the teachers who will use the modules.
- Integration should take place only when an educationally valid linkage can be made.
- 7. True integration can occur only when there is legitimate content to link. Good integrated tasks typically are not invented but, rather, discovered in the real world. Many thematic units provide rich opportunities for involving the arts; others do not. When the arts do not fit a particular theme, either look for a different theme or leave the arts out. Forcing a superficial connection only hurts student learning by unnecessarily interrupting the flow of arts instruction.

- 8. For an integrated curriculum to be considered successful, students must demonstrate greater learning in each of the subject areas being integrated and/or clear connections between important content in each of those
- 9. Integrated curriculums should not detract from arts learning, relegating the arts to a role in which they are taught only to enhance learning in other subject areas. Integration should be a two-way street.
- 10. In-service preparation must be provided for the teachers who will deliver integrated curriculums to ensure that they have mastered the knowledge, skills and pedagogic techniques to deliver those curriculums successfully.

## Student Assessment

Arts learning can and must be assessed. Once the objectives for a grade or course are clear, assessments which determine whether students have mastered those objectives should be designed. Students should understand the criteria for evaluation, and – to the extent possible – should be empowered to apply the same criteria in self-evaluation of their own work.

The arts disciplines pioneered performance and portfolio assessment, approaches which are now being used in other areas of the curriculum. For example, music students for centuries have demonstrated their mastery of music performance and composition by presenting their work to panels of expert evaluators, sometimes called judges or adjudicators. These evaluators have assessed important dimensions of students' work, such as expressiveness and accuracy of notes, in comparison to established standards. Frequently the judges have received special training so that they can apply standards in a consistent manner. Other disciplines now are using all of these components.

The problem in the arts is not so much the lack of assessment, but rather the narrow focus of what traditionally has been assessed. Assessment in the visual arts has focused on student art works, while assessment in the performing arts has focused almost exclusively on performance. Assessment in every arts class should address the broad range of learning outlined in the Connecticut standards and the local curriculum, including the analytical as well as the creating and performing domains. This means, for example, that students in performing ensembles should not only perform their music well, but also demonstrate their understanding of the form and historical and cultural background of works they prepare for performance, read music notation and

even improvise. Students in art classes should not only create original work, but also analyze, describe and evaluate others' art works.

One effective way to organize arts assessment is to measure the extent to which students can carry out the three artistic processes: creating, performing and responding (for a more detailed explanation of these processes, see page 21. Teachers should conduct regular classroom assessment to monitor, improve and report on student learning. Curriculum guides should not only recommend strategies for classroom assessment (see excerpt from Simsbury music guide in Appendix F, and visual arts units with assessment strategies in Appendix G), but also outline districtwide assessment procedures (see Farmington visual arts example in Appendix G). Suggested assessment strategies also should include scoring criteria for evaluating student work. Districts should use the results of districtwide assessment to evaluate and improve instruction by comparing student achievement to the outcomes called for in the district curriculum.

As in other disciplines, arts assessment strategies should be "authentic," or matched to the nature of the desired behaviors. For example, the best way to determine whether a student is becoming a proficient actor is not to administer a multiple-choice exam but, rather, to have the student act. Conversely, there are other types of arts learning, such as understanding the cultural context of particular works or genres, that are often best expressed in words.

Examples of selected student work should be collected in multimedia portfolios to permit assessment of their progress over time as well as their level of achievement. Because many of the products of arts classes exist in media other than words or numbers on a page, technology plays an essential role in the preservation and assessment of student work in the arts (see section in this chapter titled Instructional Technology/Equipment).

Adequate assessment can take place only when arts teachers deal with a reasonable number of students. Teachers must have a teaching load that permits them to assess the progress and attend to the needs of each student (see sections in this chapter on class size and scheduling).

A more extensive discussion of assessment, including a list of resources, can be found in the assessment section of Chapter 5. Examples of illustrative learning/assessment activities may be found at the end of each discipline-specific section of Chapter 2. Examples of units with accompanying assessment strategies are provided in Appendix G and at www.CTcurriculum.org

# Professional Development/Interaction

Districts should provide arts teachers with regular opportunities for content-specific in-service workshops and professional development. The nature of these opportunities should be based on the goals and objectives of the local curriculum and the professional growth objectives of the faculty.

Professional isolation is a common problem for the arts teacher, who is often the only specialist in his or her discipline at a particular school. This problem can be exacerbated in small school districts, in districts where the arts faculty does not meet regularly and in schools whose staff members rarely attend off-site workshops.

Arts teachers should have opportunities to:

- attend statewide, regional or national professional conferences in their field;
- participate in districtwide, state or consortium in-service days which offer electives relevant to their work;
- participate in regular districtwide meetings of teachers in their subject area, during which they have opportunities to share ideas and encounter new ideas;
- observe classroom teaching by skilled colleagues, both in the district and in other districts; and
- receive input from content-expert supervisors (see the section which follows on professional supervision and leadership).

District-sponsored in-service workshops should address identified needs of the arts staff. In-service plays an essential role in implementing curriculum, and particularly innovative curriculum. For example, most music teachers have not received instruction to prepare them to teach improvisation and composition, so local music faculty members may need workshops and professional support to design and deliver the creating component of the music curriculum. Art teachers, on the other hand, may not be comfortable teaching aesthetics or art criticism in the classroom and, therefore, may benefit from opportunities to work with teachers who are expert in teaching these areas. Districts also should encourage faculty members to participate in summer and evening courses that expand their professional expertise.